

Application No.: 10/017,806

Docket No.: JCLA7567

REMARKS**Present Status of the Application**

Claims 1 and 3-10 are pending of which claim 1 has been amended and claim 10 has been newly added in order to more explicitly describe the claimed invention. Amendment to Claim 1 is fully supported on page 8, paragraph [0034] and lines 15-18). It is believed that no new matter adds by way of amendments made to claims or otherwise to the application. For at least the foregoing reason, Applicants respectfully submit that claims 1, and 3-10 patently define over prior art of record and reconsideration of this application is respectfully requested.

Discussion of the claim rejection under 35 USC 103

1. The Office Action rejected claims 1, 3 and 8 under 35 USC 103(a) as being unpatentable over US patent 5,868,853 to Chen et al (hereinafter Chen).

Applicants respectfully disagree and traverse the above rejections as set forth below. Independent claim 1, as amended, is allowable for at least the reason that Chen fails to teach, suggest or hint every features of claim 1. More specifically, Chen substantially fails to teach or disclose a method of monitoring the etching machine comprising at least a step of cleaning the etching machine when a particle count of the etched bare wafer exceeds a control particle count as required by the amended claim 1.

Instead, Chen substantially merely teaches that the presence of contamination particles in the etching chambers during etching leads to formation of voids, dislocations or short circuit that would lead to performance and reliability problems and reduce yield. In order to overcome these

Application No.: 10/017,806

Docket No.: JCLA7567

problems, Chen substantially teaches an in-situ cleaning process which is integrated into process recipe for the nitride etch process as an added step in the nitride etch process or the cleaning process can replace the over-etching step and combine with the main etching step in two-step etching/cleaning process (please see col. 5, lines 58-64). In other words, the cleaning process is performed for each and every etching process. Accordingly, Chen's teachings would significantly prolong the etching process time and also utilize excess of cleaning gases and thereby increase the overall manufacturing cost.

In other words, Chen substantially fails to teach or disclose a step of performing a cleaning process when a particle count of the etched bare wafer exceeds a control particle count as required by the proposed amended claim 1. In other words, Chen substantially fails to teach or disclose that the cleaning process can be selectively carried out after a certain number of wafers are etched in the etching machine to clean the etching machine, instead teaches the cleaning process is performed for each and every etching process.

Thus, Chen fails to teach each and every features of the proposed amended independent claim 1.

Claims 3, 8 and 10, which depend from Claim 1, directly or indirectly, are also patentable over Chen, at least because of their dependency from an allowable base claim.

For at least the foregoing reasons, Applicants respectfully submit that claims 1, 3, 8 and 10 patently define over Chen, and therefore should be allowed. Reconsideration and withdrawal of the above rejections is respectfully requested.

Application No.: 10/017,806

Docket No.: JCLA7567

2. The Office Action rejected claims 4-7 under 35 USC 103(a) as being unpatentable over Chen in view of US Patent 6,699,399 to Qian et al (hereinafter Qian).

Applicants respectfully disagree and would like to point out that even though the Examiner relied upon Qian to disclose the silicon oxide, polysilicon and metal etching processes, still Qian cannot cure the specific deficiencies of Chen for at least the reason discussed above. Accordingly, Applicants respectfully submit that claims 2 and 4-7 also patentably define over the prior art of record for the same reasons as set forth above. Reconsideration is respectfully requested.

3. The Office Action rejected claim 9 under 35 USC 103(a) as being unpatentable over Chen in view of US Patent 4,341,582 to Kohman et al (hereinafter Kohman).

Applicants respectfully disagree and would like to point out that even though the Examiner relied upon Kohman to disclose the steps of avoiding the wafer atmosphere, still Kohman cannot cure the specific deficiencies of Chen for at least the reason discussed above. Accordingly, Applicants respectfully submit that claim 9 also patentably define over the prior art of record for the same reasons as set forth above. Reconsideration is respectfully requested.

Application No.: 10/017,806

Docket No.: JCLA7567

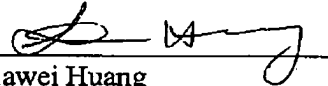
CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1 and 3-10 of the present application patentably define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Date: 12/16/2004

4 Venture, Suite 250
Irvine, CA 92618
Tel.: (949) 660-0761
Fax: (949)-660-0809

Respectfully submitted,
J.C. PATENTS


Jiawei Huang
Registration No. 43,330